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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/743,076

12/23/2003

Shigemi Wakabayashi

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12/07/2006

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ALEXANDRIA, VA 22314

EXAMINER

SHOSHO, CALLIE E

ART UNIT

PAPER NUMBER

1714

DATE MAILED: 12/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/743,076	Applicant(s) WAKABAYASHI, SHIGEMI	
	Examiner Callie E. Shosho	Art Unit 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. All outstanding rejections except for those described below are overcome by applicant's response filed 10/6/06.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1-3 and 5-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gore et al. (U.S. 2003/0055178) in view of Ishizuka et al. (U.S. 2002/0025994) and WO 2001/96483.

The rejection is adequately set forth in paragraph 4 of the office action mailed 6/7/06 and is incorporated here by reference.

Response to Arguments

4. Applicant's arguments regarding Nguyen et al. (U.S. 5,990,202) have been considered but they are moot in view of the discontinuation of the use of these references against the present claims.
5. Applicant's arguments filed 10/6/06 have been fully considered but, with the exception of arguments relating to Nguyen et al., they are not persuasive.

Specifically, applicant argues that there is no disclosure in Gore et al. of polymer particle comprising water-insoluble polymer and hydrophobic dye wherein the polymer has alkyl group of 20-30 carbon atoms in its side chain and acid value of 30-120 as presently claimed.

It is agreed that there is disclosure in Gore et al. that the polymer has acid value as presently claimed which is why Gore et al. is used in combination with WO 2001/96483.

Applicants argue that there is no motivation to combine Gore et al. with WO 2001/96483. Specifically, applicant argues that while Gore et al. disclose colorant encapsulated within polymer wherein the polymer is a structural component of the colorant, WO 2001/96483 disclose polymer used to envelope colorant wherein the polymer is not a structural component of the colorant but rather the polymer is for surface modification, namely, to avoid problems with loss of dispersant from pigment.

However, firstly, it is noted that paragraph 151 of WO 2001/96483, pointed to by applicant as stating that the polymer in WO 2001/96483 is used in order to avoid problems with loss of dispersant from the pigment, is drawn to an embodiment when the polymer is used to envelop a pigment. However, the present claims are drawn to polymer particles comprising polymer and dye not pigment. Thus, it appears that this portion of WO 2001/96483 is not particularly relevant to the present situation or to the combination of Gore et al. with WO 2001/96483.

Further, it is noted that paragraph 16 of Gore et al. disclose that the colorants include polymeric nanoparticles and colorant that is included on, are included within, or are physically or chemically associated with the polymeric nanoparticle (see also paragraph 66). Further, it is noted that WO 2001/96483 discloses hydrophobic dye that is enveloped with polymer

(paragraphs 17, 138, 149, 232, and 233). Thus, both Gore et al. and WO 2001/96483 disclose hydrophobic dye encapsulated or enveloped with polymer. Additionally, attention is drawn to the examples of WO 2001/96483, specifically comparative examples 4 and 5 which each disclose ink comprising dye but no polymer. It is shown that these inks are inferior in terms of water resistance and rubbing resistance as compared to inks comprising polymer encapsulated dye (paragraphs 372-387, Tables 4-5, paragraphs 482-482, and tables 35 and 48). Thus, it appears that the polymer of WO 2001/96483 is also a structural component of the colorant providing at least structural properties of water resistance and rubbing resistance.

Thus, given that Gore et al. and WO 2001/96483 each disclose hydrophobic dye encapsulated with polymer wherein such encapsulation is for the same purpose or motivation, i.e. to provide water resistance and rubbing resistance, it is the examiner's position that there is proper motivation to combine Gore et al. with WO 2001/96483.

Applicant also argues that Gore et al. describe polymeric nanoparticle which contains amine monomers and thus, there is no motivation to ensure an acid value within the claimed range of 30-120.

However, it is noted that this type of polymeric nanoparticle is only one type of polymer disclosed by Gore et al. In another equally significant embodiment, Gore et al. also disclose the use of polymer that contains acid monomers (paragraph 54) wherein there would be motivation to ensure acid value as presently claimed.

Applicant also argues that Gore et al. is not a relevant reference against the present claims in light of the comparative data set forth in the present specification.

The data compares ink within the scope of the present claims, i.e. comprising water-insoluble polymer having alkyl group of 22 carbon atoms (example 1 or 2), with ink outside the scope of the present claims, i.e. comprising water-insoluble polymer having alkyl group of 1, 2, or 12 carbon atoms (comparative examples 1-3 or comparative examples 4-6). It is shown that the inks of the present invention are superior in terms of printing reliability, ratio of retaining viscosity, and ratio of retaining average particle diameter.

However, it is the examiner's position that the data is not persuasive given that the data does not compare ink of the present invention with ink of the "closest" prior art, namely, Gore et al.

That is, the ink of Gore et al. is closer to the presently claimed ink than the inks of the comparative examples. Specifically, Gore et al. disclose polymer particles comprising water-insoluble polymer having alkyl group of 16-24 carbon atoms in its side chain which is closer to the presently claimed polymer, i.e. having alkyl group of 20-30 carbon atoms in its side chain, than the polymers of the comparative examples, having alkyl group of 1, 2, or 12 carbon atoms in its side chain.

It is noted that while Gore et al. disclose that the useful alkyl (meth)acrylates are C₁-C₂₄ alkyl (meth)acrylates, it is significant to note that Gore et al. explicitly disclose that in one embodiment, the alkyl (meth)acrylate contains 16-24 carbon atoms.

In light of the above, it is the examiner's position that the comparative data is not successful in establishing unexpected or surprising results over the "closest" prior art namely, Gore et al. and thus, Gore et al. remains a relevant reference against the present claims.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

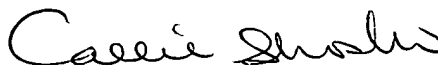
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1714

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
12/3/06